STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
Standard Aquaculture Lease Application
11 June 2007

DAVID C. WELLER & MELISSA BERRY Docket # 2006-22

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

On July 3, 2006, the Department of Marine Resources ("DMR") received an application from David C. Weller and Melissa Berry for a ten-year aquaculture lease on two sites located in the coastal waters of the State of Maine, in the Town of Vinalhaven in Knox County, one site of 4.2 acres located in Old Harbor Pond, and a second site of 2.55 acres located in the Basin, for the purpose of cultivating American oysters (*Crassostrea virginica*) using suspended culture techniques. The application was accepted as complete on June 6, 2006. No party intervened in this case. A public hearing on this application was held on January 22, 2007, in Vinalhaven.

1. THE PROCEEDINGS

The evidentiary record before the Department regarding this lease application includes 10 exhibits introduced at the hearing (see exhibit list appended), written comments submitted by mail, and the record of testimony at the hearing itself. Sworn testimony was given at the hearing by: the applicant, Melissa Berry (David Weller was absent because of a personal emergency); DMR's Aquaculture Environmental Coordinator, Jon Lewis; and several members of the public: Addison Ames, Dan Ames, Burke Lynch, Lucy McCarthy, Elise Morehouse, Elizabeth Swain, David Weiss, and Bruce Young.

No other government agencies testified, although notices and copies of the application and DMR site report were sent to numerous state and federal agencies, including, but not limited to, the U.S. Army Corps of Engineers, the U.S. Coast Guard, the National Marine Fisheries Service, the Maine Department of Inland Fisheries & Wildlife, the U.S. Environmental Protection Agency, and the Maine State Planning Office, as well as to a number of educational institutions, aquaculture and environmental organizations, the Town of Vinalhaven and the Vinalhaven Harbormaster, members of the Legislature, representatives of the press, and private individuals.

At the hearing, Ms Berry described the proposed project. Mr. Lewis presented his site report, including a video presentation showing the bottom of the Basin. The public witnesses presented their concerns about the project, and some of them presented exhibits. Each witness

was sworn and subject to questioning by the Department, the applicant, and members of the public. The hearing was recorded by DMR.

In addition to the testimony and exhibits from the hearing, DMR received two letters opposing the project prior to the close of the hearing record; they are included in the record and accorded appropriate weight, given their status as unsworn statements not subject to questioning. The evidence from all of these sources is summarized below.¹ [NOTE: The reference (Smith/Jones) means testimony of Smith, being questioned by Jones.]

At the outset of the hearing, several people asserted that while some riparian landowners had received notice of the hearing, they had not been notified of the scoping session which was held a year earlier, before the application was filed. The hearing officer, after consultation with legal counsel, ruled that the hearing would proceed and that the question whether notice was legally adequate would be considered in the course of reaching a decision on the entire case.

Documents in the case file, Exhibit 1, show that landowners around both the Pond and the Basin were sent individual notices of the scoping session (letters of December 5 and 6, 2005), the filing of the application (letter of July 7, 2006, enclosing a copy of the application), and the hearing (letter of November 30, 2006 announcing the hearing date; letter of December 12, 2006, enclosing copies of the application, site report, and the hearing notice).

The mailing list for all of these notices was identical and included landowners at both lease sites. Only the Old Harbor Pond site was the subject of the scoping session; hence, no reference to the Basin was made in the scoping notice, and the newspaper advertisement and press release simply referred to "an aquaculture lease on Vinalhaven to raise American oysters". When the application was filed with DMR, however, the Basin site had been added, and all subsequent letters, notices, and advertisements referred to both sites. No allegation was made that notice of the public hearing was in any way inadequate.

¹ Ms Swain argued that the applicants should prove that the lease operation is technically feasible and that DMR should require them to restore the site if it fails (Swain direct). Ms McCarthy of the Vinalhaven Land Trust contended that the applicant has failed to provide a sufficient bond to protect against the possibility of damage to the surrounding land owners (McCarthy direct, Exhibit 9).

Technical capability is a matter that DMR assesses in reviewing the application when it is initially submitted; unless an issue regarding technical capability can be shown to affect one of the criteria for granting the lease, it is not properly a subject for the public hearing. In this case, by declaring the application complete, DMR determined that the applicants possessed the technical capability to operate the project, as evidenced by, among other things, the fact that they have been raising oysters using the same methods and in the same locations as they have proposed for the standard lease for which they have applied.

Bond requirements for aquaculture lease sites are intended to cover costs to restore the site should the lessee fail to meet its obligations. Aquaculture lease sites are routinely inspected by DMR, and when a lease is terminated, the site is inspected before the bond is released; if remedial work needs to be performed, the bond is available to defray those costs.

The policy purpose of pre-application meetings and scoping sessions is not only to inform municipalities and the public about the nature of the project that the applicant is considering, but also to elicit more information for the applicant from the public about the proposed site. It is to be expected that the application itself, which is submitted to DMR only after the pre-application meeting and the scoping session have occurred, may differ in some ways from the initial proposal.

In this case, the applicants already held an experimental lease in the Pond, and Mr. Weller already held a limited-purpose aquaculture license for work in the Basin. The project now under consideration was originally conceived of as a single site in Old Harbor Pond, as discussed at the scoping session, but the second location at the Basin was added by the time the application was filed, presumably in part as a result of information gathered at the scoping session.

The scoping session is essentially an informal, information-sharing exercise, is not recorded, and does not affect the final decision. Only when an application is received does the process become formal and evidentiary, to create a basis of information in the record of the case on which the final decision is made.

The statute and rules make no provision for altering the process when an application differs from the proposal previously presented for discussion at the scoping session. To require a new scoping session every time an application differs from the tentative proposal would be to create a needlessly long process with minimal benefit. The scoping session notice is necessarily limited, given the exploratory nature of the proposal at that stage, and is not certain to reflect the extent of the project that may ultimately be set forth in the application.

The public's opportunity to affect the final decision occurs in the context of the public hearing process for the application, where they may comment in writing, testify in person, and intervene in the case. Defects in public notice or in the legally required notices to riparian landowners at this stage can affect their opportunity to be heard in the decision-making context and to affect the outcome of the case.

While the scoping session was held after notices to riparians that mentioned only the Pond site, this notice actually went to landowners around the Basin, as well. All riparians received notice of the application for leases in both locations, once it was filed, and ample public participation by riparians occurred at the hearing. There is no evidence in the record that anyone's ability to participate in the public hearing process was prejudiced by the alleged inadequacies of the scoping session notice. The alleged inadequacies are harmless in this case, as the public, including the riparian landowners, received adequate and timely notice of the hearing and were afforded a full and fair opportunity to be heard on the proposed leases; therefore, I find that the process in this case was not deficient.

2. DESCRIPTION OF THE PROJECT

The Application

According to the application, David Weller and Melissa Berry have an experimental aquaculture lease in Old Harbor Pond, Vinalhaven, where they have grown American oysters for the past three years. Mr. Weller also has a Limited Purpose Aquaculture License for up to 400 sq. ft. of gear nearby in the Basin, Vinalhaven, also for growing oysters. Having gained experience in oyster farming, the applicants now seek a standard lease on two tracts, the first of 4.2 acres in Old Harbor Pond, adjacent to property owned by Mr. Weller, and the second of 2.55 acres in the Basin. The first tract is referred to as "the Pond site" or "Tract 1"; the second as "the Basin site" or "Tract 2".

At the time of the hearing, Old Harbor Pond was closed to the taking of, so no oysters could be moved from the Pond to the Basin until the rating was raised from "closed" to "restricted". Once the Pond waters are upgraded, the applicants plan to raise the oysters from seed in Old Harbor Pond and then move them to the Basin to grow to harvestable size. The application also states that if the Pond site is reclassified, the applicants may grow oysters from seed at both sites. On 10 May 2007, DMR announced that Old Harbor Pond is reclassified as "Restricted" and requires a special DMR permit for shellfish harvesting.

The application describes and illustrates the layout of equipment proposed for the lease sites, which consists mainly of ADPI bags to hold oysters. These are black wire-mesh "boxes" measuring 3 ft. long by 16 inches wide by 4 inches deep, with flotation units on the long sides. The bags are tied end-to-end in a line, and the ends of the line are attached to white 6" diameter mooring buoys which, in turn, are attached by ½" poly lines to moorings (30-lb. concrete blocks or mushroom anchors) on the sea floor. Oysters will also be cultured in 3-ft.-square trays, stacked one above the other, three or four trays high, secured by framing poles at the corners, and held aloft in the water by foam floats attached to the sides.

In winter, oysters will be held under water, away from potential ice. Ms Berry testified that the method outlined in the application would be modified as a result of problems incurred in the winter of 2005-06, when oyster mortality was high using the rack system. Instead of holding the oysters in ADPI bags in racks held above the mud bottom on oak runners, the strings of bags will float submerged below ice level, anchored but with flotation attached so that they will remain well above the bottom. In summer, the bags and trays will float just at the water's surface.

At the Pond site, a maximum of 2,000 bags, strung together in varying lengths, will be deployed on the site. Up to 500 floating tray stacks may also be used. At the Basin site, a maximum of 2,160 bags will be deployed in a similar manner. Some oysters may also be planted on the bottom and harvested by divers.

The applicants expect to produce, at maximum, one million oysters per year for harvest. Harvesting will consist of hauling up the bags with a small crane attached to a work float on each site and removing the oysters. Bags and gear that become fouled with algae and other marine

growth will be turned over ("flipped") in the water, so that the growth is on the top of the bag, which floats slightly above the water's surface. The exposure to sun and air dries out the fouling material, which is then brushed off with a wire brush and either falls back into the water or is removed for use as compost.

Both sites will be visited 2-3 times each week during the growing season; nursery operations will be tended twice a week and grow-out operations once a week. If an upweller is used, it will be tended daily. Harvesting will occur weekly at most in the growing season and possibly outside the growing season in the Basin. Other details of the proposed operation are described in the sections below.

Site Report

Mr. Lewis testified that he visited the two proposed sites on 22 September 2006. According to his site report, observations in the Pond were made by swimming, as the water was too shallow for SCUBA . The Pond site was reached on foot over Mr. Weller's land. At the Basin, both SCUBA and underwater video were used for observing the site. Mr. Lewis showed the video at the hearing. The Basin site was reached by boat through the narrows at the northern end.

The site report describes the bottom of the Pond as composed of "soft mud with a heavy overlay of detritus" (Exhibit 3, p.2); the Pond is shallow (depths of 1-15 ft.) and semi-enclosed; water depths are only minimally affected by the rise and fall of the tide; currents are minimal. Water exchange occurs through a small inlet at the north end of the Pond. In winter, the Pond is expected to "ice over solidly" (Exhibit 3, p. 9). Mr. Lewis testified that the plant and animal life in the Pond are minimal, resembling a fresh water pond in many respects. He saw no effect on the Pond from the existing oyster trays deployed there by the applicants on the experimental lease (Lewis, direct).

The site report describes the proposed Basin site as having a "flat mud bottom bordered on the east by intertidal ledges and flats" (Exhibit 3, p. 2); water depth at mean half-tide "ranged from a minimum of 17 feet at the SE to a maximum of 21 feet at the NW and NE corners" (Exhibit 3, p. 3). During an average (0.0 feet) tide, water depth at the site is estimated as 8-12 feet (Exhibit 3, p. 4).

Barton Island blocks the Basin from the open water of Hurricane Sound; the tide flows in and out of the Basin around the north and south ends of the island; tidal currents run north-south. The southern opening, which runs under a causeway, is known as The Falls (Exhibit 2, sec. 4). Mr. Lewis testified that the bottom of the Basin was similar to the bottom below many oyster farms, especially in the Damariscotta River, with algae and many "ghost" lobster traps. The site report characterized it as a "soft-mud, highly depositional area" and noted that "species diversity was low within the proposed boundaries." (Exhibit 2, sec. 2)

3. STATUTORY CRITERIA

Approval of standard aquaculture leases is governed by 12 M.R.S.A. §6072. This statute provides that a lease may be granted by the Commissioner of DMR if s/he determines that, taking into consideration the number and density of aquaculture leases in an area, the project will not unreasonably interfere with the ingress and egress of riparian owners; with navigation; with fishing or other uses of the area; with significant wildlife habitat and marine habitat or with the ability of the site and surrounding marine and upland areas to support ecologically significant flora and fauna; or with the public use or enjoyment within 1,000 feet of a beach, park, docking facility or certain conserved land owned by the Federal Government, the State Government, or a municipal governmental agency. The Commissioner must also determine that the applicant has demonstrated that there is an available source of organisms to be cultured for the lease site; that the lease will not result in an unreasonable impact from noise or lights at the boundaries of the lease site; and that the lease will be in compliance with visual impact criteria adopted by the Commissioner relating to color, height, shape and mass.

A. Riparian Access

Old Harbor Pond: The application states that the proposed Old Harbor Pond site "is in a closed body of water not used for navigation" and that "This oyster farm is the only commercial activity in Old Harbor Pond. Current usage is recreational boating of occasional canoes, kayaks, or iceboats and some ice-skaters" (Exhibit 2, section 6b). According to the site report, no docks or moorings exist in Old Harbor Pond, there is a minimum of 100 ft. of navigable water to the east of the site, and "the proposed activities will not interfere with riparian access". Mr. Weller's property is adjacent to the western boundary of the proposed lease site, which is in the same general location as the applicants' current experimental lease (Exhibit 3, p.7).

The Basin: The application includes a letter from the local Marine Patrol officer which notes that there are no moorings in the lease area proposed for the Basin and states his opinion that the proposed lease site "would not inhibit the access or egress of other users of the Basin or obstruct any channel" (Exhibit 2, Attachment 9). The application notes that recreational boating similar to that in the Pond also occurs in the Basin, as well as "lobstering in the deep water of The Basin, but not in the proposed lease site." The applications states that "Navigation in the Basin is not blocked" by the proposed lease site, and there are no moorings within the proposed lease site (Exhibit 2, sec.6b1).

The Basin is largely undeveloped, according to the site report, and no houses, docks, or moorings exist in the vicinity of the proposed lease site. The east side of the site is adjacent to intertidal ledges and mud flats. From the western boundary of the site to the ledges to the west lie 300 ft. of open water, leading Mr. Lewis to conclude that vessels in the Basin can navigate around the proposed lease site (Exhibit 3, p.7). Of the riparian land within 1,000 ft. of the proposed lease site, virtually all is held by land trusts either in fee or by easement or is in the process of having

easements negotiated, according to Exhibit 10. Most of the easements prohibit future construction.

Findings of Fact Regarding Riparian Access:

Old Harbor Pond: The proposed lease site is adjacent to the applicant's property, in the same general location as the present experimental lease, with 100 ft. of navigable water beyond it to the east. The Pond is not used for navigation, other than by small recreational boats, and no docks or moorings exist there. The evidence shows that riparian access would not be impeded by the proposed lease site.

The Basin: The proposed lease site is located in the same general area as the applicant's current limited-purpose aquaculture license, with 300 ft. of navigable water to the west and approximately 38 ft. of navigable water to the east, between the site and the east ledges. Additional development in this area, including docks, is not likely to occur, given the terms of the conservation easements. There are no moorings in the lease area. The evidence shows that riparian access would not be impeded by the proposed lease site.

Therefore, I find that the aquaculture activities proposed for these sites will not unreasonably interfere with the ingress and egress of any riparian owner.

B. Navigation & Marking Buoys

<u>Navigation</u>: Ms. Berry testified that the equipment on the lease sites would pose no danger to the public; she requested, however, that kayaks and other boaters refrain from crossing the lines on the leases to avoid becoming entangled with them, just as they would exercise care around lobster buoy lines (Berry/Lynch). The application states that "Recreational boating is compatible so long as the law prohibiting the molestation of gear or oysters is respected" (Exhibit 2, sec. 6b2).

<u>Old Harbor Pond</u>: In addition to the description given above in section A on riparian access, information in the site report indicates that boating on the Pond is largely done by the riparian landowners, launching small craft from the shore; "at least 100 feet of navigable water" lies to the east of the proposed lease site (Exhibit 3, p. 7). Otherwise, boat access to the Pond is very limited.

<u>The Basin</u>: Ms. Berry testified that vessel access to the Basin is restricted by the tide and that small boats can enter beneath the overpass at the southern opening (The Falls); larger boats enter at the northern opening.

The site report states that 300 ft. of navigable water lie to the west of the lease site; to the east, the narrowest area is between the southeastern corner and the nearest intertidal ledges, amounting to 38 ft. The report notes that "The two entrances into the Basin are less than 200 feet wide and in some places much narrower. It would appear that vessels that are able to enter the Basin could successfully navigate around the proposed lease" (Exhibit 3, p. 7).

Bruce Young testified that he hauls boats out at a cove in the south end of the Basin; he was concerned that his access would be blocked by the oyster gear on the lease site. He marked Exhibit 4 to show the route he takes, which runs east of the proposed lease site along the ledges as shown on the chart, a route he said he uses because the water on the west side is "too shallow". Ms Berry pointed out that several hundred feet of navigable water lie to the west of the lease site, so that he should have adequate room to navigate. Mr. Young evinced his concern for the future, should the lease be expanded; Ms Berry pointed out that no expansion could occur without public hearings (Young/Berry).

Dan Ames testified that he used to tow 60 ft. of floats through the middle of the Basin to store them on the shore in the south end, although he has not done so for 3-4 years, having found another storage spot. He was concerned, however, not to lose access to the south end of the Basin (Ames, direct).

Mr. Lewis reiterated in his testimony his conclusion that ample deep, navigable water exists to the west of the lease to permit navigation to the south end of the Basin; he stated that to the east side of the lease there would be room only for small craft such as kayaks and skiffs to navigate between the lease site and the nearby ledges (Lewis/Randlett).

Marking: The corners of the two sites were located by Mr. Lewis, using GPS, at the time of his site visit, and the applicant marked them with buoys, according to the site report (Exhibit 3, p. 5). Referring to the likelihood that overwintered gear will need to be submerged to avoid ice, the site report notes that "marking of submerged gear located within the shallower portions of the [Basin] tract (southeastern extent) may be necessary" (Exhibit 3, p. 4).

Findings of Fact Regarding Navigation & Marking Buoys

<u>Old Harbor Pond</u>: The evidence shows that the Pond is not used for navigation and that the existence of the lease site will not unreasonably interfere with the boating activities that normally occur there. Recreational boating will be allowed on open areas of the lease.

The Basin: The evidence shows that navigation does occur in the Basin. Lobstering takes place mainly at the deeper, northern end, and smaller recreational boats operate throughout the Basin. Boats also travel occasionally to the cove at the south end, sometimes towing floats to haul out there. The evidence also shows that 300 ft. of navigable water lies to the west of the lease site, which is adequate for the navigational activities that occur there and allows for access to the southern cove for hauling boats and floats. Smaller recreational boats can navigate between the lease site and the ledges to the east.

The applicants request boaters not to cross the lines on the lease and to respect the law prohibiting molestation of aquaculture gear. DMR policy is to allow multiple uses on lease sites to the extent reasonably possible, in order to minimize disruption to the use of the waters by the general public while still accommodating leaseholders' needs. DMR Marine Patrol enforces laws

protecting lease sites and gear. Recreational boating will therefore be allowed on the open areas of the lease.

<u>Marking</u>: The lease sites must be marked in accordance with DMR rules, as well as with any U.S. Coast Guard requirements. If gear is submerged in the Basin, it must also be marked, to show its location under water and within the lease boundaries.

Therefore, I find that the aquaculture activities proposed for these sites will not unreasonably interfere with navigation.

C. Fishing & Other Uses

Old Harbor Pond: The application notes that the current experimental lease is the only fishing activity in the Pond, which otherwise is used for small-boat recreation and ice boating and skating. There are no moorings within the lease site (Exhibit 2, sec, 6b3). The site report notes that no fishing activity was observed at the Pond site during the site visit on 22 September 2006 and that fishing is unlikely to occur there. The report also notes that the Pond was closed to the harvest of shellfish and that lobster and similar commercial species are unlikely to live in the Pond's environment (Exhibit 3, p. 5).

The Basin: Mr. Lewis did not observe fishing activity within the lease boundaries on 22 September 2006, but he notes in the site report that lobstering takes place in the surrounding water of the Basin, and that he counted 50-100 traps throughout the Basin during his visit, mostly to the north of the site, "surrounding the narrows feeding into the Basin. Four lobster buoys were, however, located adjacent to the northern boundary of the proposed tract" (Exhibit 3, p. 5). There are no moorings within the lease site (Exhibit 2, sec. 6b3).

Given the restricted access for motorboats into the Basin, Mr. Lewis considers dragging activities unlikely, and he noted that any commercially exploited species were observed only in limited numbers. Recreational fishing is a possibility, given the ledges that could shelter fish (Exhibit 3, p. 5). The local Marine Patrol officer states that "The area is used in the summer by small recreational craft including kayaks, canoes, and small outboards. There is commercial lobstering but this is conducted more in the deeper waters from outboard boats" (Exhibit 2, Attachment 9).

Addison Ames testified that he has fished for lobster in the Basin for 50 years, setting 25-30 traps there every year at different times, sometimes catching lobsters, and sometimes not. Ms Berry testified that she saw his buoys outside the proposed lease site between August and December of 2006; Mr. Ames stated that he had gear within the proposed site, as well (Ames/Berry). Burke Lynch, a local kayak guide, read his prepared testimony (Exhibit 5) and noted his concern that the aquaculture project in the Basin will frighten away the seals which are a highlight of his kayak tours.

According to the Site Report, the nearest aquaculture lease, other than the applicants' lease and license, is on North Haven Island in Pulpit Harbor Salt Pond, where American oysters are grown in bottom and suspended culture (Exhibit 3, p. 9).

The applicants request "exclusive use of both tracts for fishing and any other sea harvests". They also request "that littering into the water or any overboard discharge of any kind within 1000 feet of either lease site be prohibited" (Exhibit 2, sec. 6b2).

Findings of Fact Regarding Fishing & Other Uses

Old Harbor Pond is not a fishing area; the proposed lease will not unreasonably interfere with fishing or other uses there. Lobstering takes place in the Basin, although mainly to the area north of the lease site. Dragging is unlikely, and other commercial species are limited. Some recreational fishing may occur in the Basin, which is also open to the harvest of shellfish. The proposed aquaculture site will not interfere with these activities. The nearest aquaculture lease, other than the applicants' existing lease and license on the sites here under consideration, is on North Haven Island in Pulpit Harbor Salt Pond, some six miles distant; neither lease will interfere with the other.

The applicants' request for prohibitions on littering and overboard discharges are beyond the scope of this proceeding; existing laws deal with those subjects. As to their request for exclusive use of both tracts for fishing and any other sea harvests, DMR policy is to allow multiple uses on lease sites to the extent reasonably possible, in order to minimize disruption to the use of the waters by the general public while still accommodating leaseholders' needs. DMR Marine Patrol enforces laws protecting lease sites and gear.

Consistent with the requirements of 12 MRSA §6072-B, therefore, fishing should be allowed on the open areas of the lease sites. Therefore, I find that the aquaculture activities proposed for these sites will not unreasonably interfere with fishing or other uses of the area.

D. Habitat, Flora & Fauna

David Weiss, a riparian owner, testified that harbor seals are common in the Basin, that he has observed them there over many years, that they are protected under federal law, and that they should be protected here by denying the proposed lease site in the Basin. Elise Morehouse presented a letter from David G. Strawson, Managing Trustee of the Strawson Family Trust (Exhibit 6), contending that the MDIF&W review was inadequate, that conservation easements given by his trust and other owners on land around the Basin state that the land has significant conservation value for various species of wildlife, that cleaning algae from gear will pollute the water of the Basin, that transferring oysters from the Pond to the Basin risks spreading contamination, and that seals using the ledges near the lease will be disturbed by activity on the site.

Burke Lynch also testified to his concern over disturbance of seals, pollution, and further development in the Basin. Lucy McCarthy of the Vinalhaven Land Trust argued that the applicants have not proven that their aquaculture operation will not have an adverse impact on the ecology of the Basin and testified that MDIF&W in 1987 recognized the Basin as a significant area for seals, eagles, ospreys, and other water- and shorebirds. Elizabeth Swain argued that the applicants should prove that the lease operation will not adversely affect wildlife in the Basin.

Attachment 7 of the application is a copy of a letter to David Weller from G. Keel Kemper, Regional Wildlife Biologist at the Maine Department of Inland Fisheries & Wildlife, stating that, according to MDIF&W records, there are no known Essential Habitats or Significant Wildlife Habitats as defined in Maine law that are associated with the project site. Essential Habitats, the letter states, are defined as "areas currently or historically providing physical or biological features essential to the conservation of an Endangered or Threatened species in Maine and which may require special management considerations"; this category applies only to bald eagle nesting sites and roseate tern, piping plover, and least tern colonies.

Significant Wildlife Habitat, the letter says, is protected under the Natural Resources Protection Act, administered by the Maine Department of Environmental Protection and is defined as: habitat for endangered and threatened species, certain deer wintering areas and travel corridors, waterfowl and wading bird habitats, shorebird nesting, feeding, and staging areas, and seabird nesting islands.

Mr. Lewis testified that he observed seals in the water in the Basin and expects them to haul out on the ledges to the east of the proposed lease site, and elsewhere, to give birth and nurture their pups, particularly between May and July. While the seals are not likely to be disturbed when in the water, Mr. Lewis said, they are susceptible to disturbance when hauled out on ledges, and therefore he recommended including a condition in the lease prohibiting work on the site when seals are present in the pupping season between May and July on the ledges to the east of the site (Lewis direct). He noted that the federal Marine Mammal Protection Act (MMPA) prohibits disturbing seals at all times.

In response to a question from Ms Berry, Mr. Lewis said that if the applicants are working on the site and the seals approach in the water, no alteration of the work is necessary; if they haul out onto the ledges to the east of the lease site, people on the site should move at least 100 yards away, to give them adequate space and prevent disturbance during the pup-raising season. He stated that there was little risk of seals becoming entangled in lines on the site; while they can become tangled in nets, these are simply single lines. Seals are not at risk from the oysters, he said, as they are mammals and not susceptible to any oyster diseases (Lewis/Weiss).

Mr. Weiss testified that he observed salps, a pelagic tunicate, clogging an intake pipe just outside the western entrance to the Basin; he thought it possible that they might migrate into the Basin and foul the applicants' gear. Mr. Lewis recommended a condition in the lease to require the applicants to clean all gear and oysters thoroughly before moving them between the two sites,

to avoid the potential for spreading tunicates and other fouling organisms between the two water bodies (Lewis direct).

Mr. Lewis testified that the applicants' plan to air dry equipment fouled with an overgrowth of marine algae and other organisms and brush the dried material off into the water near the lease site does not constitute a discharge, as Mr. Weiss had argued, because the process simply returns to the water material that came from it originally (Lewis direct).

Mr. Lewis noted that as long as the water in Old Harbor Pond is closed to the taking of shellfish, the applicants cannot move oysters in or out of the Pond. The site report notes his conversation with a DMR staff member involved in the water quality monitoring program, who told him that the Pond may be reclassified as "restricted" after further testing, in which case Pond oysters could be moved to the Basin. As noted above, this reclassification has occurred.

Findings of Fact Regarding Habitat, Flora & Fauna

The Maine Department of Inland Fisheries and Wildlife (MDIF&W) determined that no Essential or Significant Habitat exists in the area of the Basin within the meaning of state or federal law relating to threatened, endangered, and certain other species. The MDIF&W received a copy of the application to review after it was accepted by DMR; no one from MDIF&W testified at the hearing or submitted further comments. Although Mr. Strawson's statement is critical of this review as being inadequate, the fact is that the opportunity exists for any witness to come forward with evidence to show that habitat within or near the lease site would be unreasonably interfered with by the activities proposed for the site. In fact, several witnesses did just that, with respect to the harbor seals that frequent the Basin and haul out on the ledges to the east of the lease site. Several witnesses also testified to the variety of wildlife in and around the Basin, but there was no evidence of unreasonable interference with their habitats by the activities on the proposed lease site.

<u>Seals</u>: It is clear that harbor seals frequent the waters of the Basin and use the ledges to haul out on for giving birth and nurturing their pups. The ledges east of the proposed lease site are approximately 38 feet from the eastern boundary of the site; it is likely, therefore, that activities on the site could disturb seals on the ledges to the east. Mr. Lewis's testimony supports protecting them from disturbance by activities on the lease site, particularly during the pupraising season.

Based on the evidence, it appears that harbor seals would be adequately protected from interference by the following requirements:

These conditions are in effect for the Basin lease site from May 1 to August 1. If seals are hauled out on the ledges to the east of the Basin site, workers on the lease site shall remain at least 100 yards away from the ledges. If people are working on the site and seals approach in the water, work may continue, but a watch must be kept on the seals; if seals haul out on the ledges, workers must move at least 100 yards away from the ledges. Boats may enter the site when seals are present on the eastern ledges, provided they

remain at least 100 yards from the eastern ledges and minimize motor noise and water disturbance.

Mr. Lewis recommended using 100 yards in this case, which would still allow the applicants to work on a portion of the Basin lease site if seals were present on the eastern ledges. The Federal Marine Mammal Protection Act (MMPA) does not specify a distance to be maintained between humans and seals, but DMR is aware that the National Marine Fisheries Service uses the 100-yard buffer as a guideline for seal watching. This lease condition would apply only during the pupping and nursing season, but the MMPA protects seals from disturbance at all times.

<u>Invasive/Fouling Organisms</u>: Because of the potential for spreading invasive or fouling organisms between the Pond and Basin sites, all gear and oysters should be thoroughly cleaned before being moved from one site to another. This applies to movement from the Pond to the Basin, as well as from the Basin to the Pond.

3. Water Quality: The evidence indicates that brushing dried algae into the water it came from will not degrade the water quality. It appears, then, that this cleaning method does not pose harm to the quality of the water at the lease sites.

The DMR water quality classification controls whether or not shellfish can be harvested at either site or moved from one site to another. No shellfish can be moved from the Pond to another water body as long as DMR classifies the Pond as "closed" to the harvesting of shellfish, but the Pond is now rated "restricted", and the applicants can obtain a license to harvest their oysters or move them to the Basin.

Therefore, I find that the aquaculture activities proposed for these sites will not unreasonably interfere with significant wildlife habitat and marine habitat or with the ability of the lease site and surrounding marine and upland areas to support ecologically significant flora and fauna, provided that the conditions described above regarding seals and the cleaning of gear and oysters are observed; these conditions must be included in the lease.

E. Public Use & Enjoyment

All of the land around the Basin and the Pond within 1,000 feet of the proposed lease sites is privately owned, as shown on the property tax maps attached to the application. There is no evidence of any public docks, beaches, or parks within 1,000 feet of the sites.

According to the site report, records of the Maine Coast Heritage Trust indicate that much of the land around the Basin has been conserved privately (Exhibit 3, p. 10). Lucy McCarthy of the Vinalhaven Land Trust testified that this land has been placed under conservation easements with the Vinalhaven Land Trust and the Maine Coast Heritage Trust to protect "the scenic and unaltered natural resources of the Basin while allowing low impact outdoor recreation, nature observation and study" and prohibiting "commercial use of the shore land", as well as further construction on the shore. She opposed the lease application for the Basin as contrary to

the values for which the land has been preserved (Exhibits 9 & 10). She noted that people can enjoy the scenery of the Basin "from the Granite Isle road and the waters of the Basin" (Exhibit 9). She acknowledged that the property under easements is not government-owned land, but contended that it is subject to public access (McCarthy direct). The map provided by the Vinalhaven Land Trust (Exhibit 10) indicates that nearly all of the land within 1,000 feet of the proposed lease site in the Basin is either owned by the Vinalhaven Land Trust or the Maine Coast Heritage Trust, is under a conservation easement, or is in the process of having an easement created.

Mr. Weiss testified that the aquaculture operation would have an adverse visual effect on this "nearly public" property (Exhibit 7). Ms. Swain said no effort had been made to transfer the conserved land to public ownership and that there was no showing that it would be preferable to manage the land at public expense (Swain/Berry). She argued that the Basin land should be treated as if it were publicly-owned conserved land and that the site is special for its natural beauty, its environmental value, and the enormous effort that people have made to conserve it. David Strawson, in his letter, contended that allowing a commercial aquaculture operation in the Basin is contrary to the purpose for which the land was protected, i.e., to "preserve the pristine nature of the Basin in perpetuity" He noted that most of the easements protecting the Basin land prohibit commercial and extractive activity (Exhibit 6).

Findings of Fact Regarding Public Use and Enjoyment:

There are no public docks, beaches, or parks within 1,000 feet of either of the proposed sites. Several witnesses testified to the "pristine" nature of the Basin and to the "enormous" effort that many people have made to conserve the adjacent land, all of which is privately owned, either by individuals or by organizations. Most of the witnesses who addressed this issue recognized that the statutory criterion for considering the effect of aquaculture leases on public use and enjoyment of conserved lands refers specifically to *public* conserved lands that are owned *in fee* by local, state, or federal governments. Since no land within 1,000 feet of the proposed lease sites meets that definition, there can be no finding that the proposed lease would unreasonably interfere with the public use or enjoyment of such lands, should the evidence support such a finding.

Therefore, I find that the aquaculture activities proposed for these sites will not unreasonably interfere with the public use or enjoyment within 1,000 feet of a beach, park, docking facility or certain conserved land owned by the Federal Government, the State Government, or a municipal governmental agency.

F. Source of Organisms

The application states that the source of seed stock is Sandy Cove Hatcheries in Harrington, Muscongus Bay Aquaculture in Bremen, spat from oysters in Old Harbor Pond, or "other Maine DMR approved source" (Exhibit 2, cover sheet). Other than the biosecurity concerns raised by Mr. Lewis and others with regard to moving oysters between sites, no other evidence on this subject was presented.

Findings of Fact Regarding Source of Organisms

The evidence shows that the applicants will procure their oyster seed stock from any of several sources, including two hatcheries, their existing stock in Old Harbor Pond, or from another source approved by DMR. No seed stock may be moved from Old Harbor Pond to any other site as long as the Pond is closed to the harvest of shellfish.

Therefore, I find that the applicant has demonstrated that there is an available source of American oysters (*Crassostrea virginica*) to be cultured for the lease site.

I. Light

Ms. Berry testified that the applicants would prefer not to use any lights or power at the lease sites, other than any lighted navigation aids that might be required. She stated, however, that there was a possibility that some harvesting might need to start before dawn, in which case they would use hand-held or boat-mounted 1500-watt spotlights pointed down at the water. A light or lights might be required on work boats as a navigation safety requirement. A security camera might be deployed at the Basin site to monitor the gear, but that would be either a low-light or an infrared camera not requiring extra lights (Berry/Etnier).

The site report recommends that "any use of light should be minimized to that necessary to safely conduct activities" (Exhibit 3, p. 8).

Mr. Strawson's letter asserts that night lighting is incompatible with the Basin and criticizes the site report for not evaluating the potential adverse effect of night light on wildlife or its visual impact on the Basin (Exhibit 6).

Findings of Fact Regarding Light

Light used at night on the proposed sites is likely to be visible to some degree at the boundaries of the lease sites. The applicants assert that they plan to use artificial lights on the lease sites only when harvest activities cannot be completed in daylight hours or for navigational or vessel safety purposes. They would prefer not to use light or power at the sites and plan to minimize their use when any use is necessary. To minimize the impact of light at both sites, the lease will include a condition restricting light usage to that described in the application and in the applicants' testimony.

Therefore, I find that the aquaculture activities proposed for these sites, when conducted in accordance with the limitations specified above, will not result in an unreasonable impact from

light at the boundaries of the lease site. The provisions of DMR Regulation 2.37(1)(A)(8) shall apply to the operation of this lease consistent with the limitations listed above and shall be incorporated into the provisions of the lease itself.

H. Noise

The application states that work at the Old Harbor Pond site will be done with rowboats and other hand-powered small boats, a work float with a crane, and "possibly a pressure washer"; it states also that "any motors used in Tract 1 will be electric motors, not gasoline powered" (Exhibit 2, sec. 2e). An upweller may be used at the Pond. At the Basin site, rowboats, a work float with crane, a larger motor tender, and possibly a smaller outboard will be used (Ibid).

Any upweller, the application says, will be muffled and used during the growing season; According to DMR knowledge, upwellers are generally electrically-powered and very quiet. Any pressure washer would be used during daylight hours and "likely for a maximum of one hour every third day at each tract during standard maintenance and longer during harvests. The motor would be encased for noise control" (Exhibit 2, sec 3b). Ms. Berry testified that the applicants have never used a pressure washer, but that it is the industry standard for cleaning fouling organisms from gear (Berry/Weiss).

The site report notes that because motorboats will not be used on the Pond, noise from that source is not an issue. Using an electric motor on the crane would also reduce potential noise impact. The pressure washer, however, would "presumably be gasoline powered" and thus could create a noise problem for other residents on this protected water body (Exhibit 3, p. 7), even with the motor encased.

At the Basin site, the report states that encasing the pressure washer for noise control should adequately reduce noise, given "the lightly populated shoreline of The Basin" (Ex. 3, p. 8).

Mr. Strawson's letter expresses concern that even though the Basin is "lightly populated", noise at the lease site will affect visitors on land or water, as well as seals.

Findings of Fact Regarding Noise

Minimizing noise is important at both sites. The Pond is a small, protected area where noise would carry across the water. The applicants' plan to use only electrically-powered equipment in the Pond, presumably including any pressure washer, is reasonable and will be made a condition of the lease.

The Basin is a water body known for its natural beauty and attractive to kayakers and other recreational boaters. The Basin, however, is used by motorboats of various types for setting and hauling lobster traps, hauling floats from one end to another, and for recreation; thus, noise from commercial and recreational activities already occurs in the Basin. Any additional noise from activities on the lease site should nonetheless be minimized at the boundaries of the site by encasing any gasoline-powered pressure washer for maximum noise reduction and limiting its

use to that described by the applicants. An additional restriction on the use of noise-generating equipment during the seal pupping season will help avoid disturbance to seals in the vicinity of the site.

Therefore, I find that the aquaculture activities proposed for these sites will not result in an unreasonable impact from noise at the boundaries of the lease site when conducted in accordance with the limitations and requirements specified above, which shall be incorporated as conditions in the lease. The provisions of DMR Regulation 2.37(1)(A)(9) shall apply to the operation of this lease subject to the aforesaid limitations and requirements and shall be incorporated into the provisions of the lease itself.

I. Visual Impact

The application states that the floating bags and trays are black or another dark color; the overwintering racks are not visible when installed because they are under water; buoys are mostly white, some with markings required by DMR; rowboats are white, the canoe is red, and the surface of the work floats is wood (Exhibit 2, sec. 2h).

The site report notes that the buoys used resemble lobster buoys; that the black mesh bags with black or dark gray flotation cylinders float at the water's surface, tied in a line; and that the work floats hold "cranes" which extend no more than eight feet above water level, according to the application. The report notes that because of ice in the winter, all equipment will need to be either removed from the sites or sunk to the bottom (Exhibit 3, p. 8).

Ms. Berry testified that only black or dark green bags would be used (Berry/Etnier). Mr. Strawson's letter contends that the amount of gear, boats, and workers on the Basin site is incompatible with the preservation of the Basin; that use of lights at night creates a visual impact, and that the visible bags in the water detract from the natural beauty of the Basin (Exhibit 6). Mr. Weiss testified to similar effect, stating that the visual impact of the project on the "enormous" volume of conserved land would be offensive and blemish the "exquisite tidal jewel" that is the Basin (Exhibit 7, Weiss direct). Mr. Lynch testified that the equipment at the surface would be incompatible with the scenic area of the Basin.

Findings of Fact Regarding Visual Impact

The major visual impact created by the proposed aquaculture operation is the ADPI bags and trays floating at the surface of the water; the applicants have stated that these will be black or another dark color. Marking buoys must be visible and comply with DMR and U.S. Coast Guard requirements. Other gear at the site is minimal, including small cranes no more than 8 ft. high and small wooden work floats. Boats that tend the sites will not be permanently moored there.

As minimal as this equipment is, it will be visible from the water in the Pond and the Basin. Keeping all materials in dark colors, as required by DMR Rule 2.37 (1) (A) (10), will

minimize the visual impact of the project. DMR's regulations regarding visual impact will be made part of the lease provisions.

Therefore, I find that the proposed lease will comply with the visual impact criteria contained in DMR Regulation 2.37(1)(A)(10). DMR Regulation 2.37(1)(A)(10) shall apply to the operation of this lease and shall be incorporated into the provisions of the lease itself.

4. CONCLUSIONS OF LAW

Based on the above findings, and taking into consideration the number and density of aquaculture leases in the area, I conclude that:

- 1. The aquaculture activities proposed for these sites will not unreasonably interfere with the ingress and egress of any riparian owner.
- 2. The aquaculture activities proposed for these sites will not unreasonably interfere with navigation, provided that boating is allowed in the open areas of the lease sites and that the lease sites are marked in accordance with U.S. Coast Guard and DMR requirements and that any submerged gear in the Basin is marked to show its location. The provisions of DMR Regulation 2.80 shall apply to the operation of this lease and shall be incorporated into the provisions of the lease itself.
- 3. The aquaculture activities proposed for these sites will not unreasonably interfere with fishing or other uses of the area, provided that fishing is allowed on the open areas of the lease sites.
- 4. The aquaculture activities proposed for these sites will not unreasonably interfere with significant wildlife habitat and marine habitat or with the ability of the lease sites and surrounding marine and upland areas to support ecologically significant flora and fauna, provided that:
- (A) All gear and oysters shall be thoroughly cleaned to remove fouling organisms and potentially invasive organisms before being moved from the Pond to the Basin or from the Basin to the Pond, and that:
- (B) These conditions are in effect for the Basin lease site from May 1 to August 1: If seals are hauled out on the ledges to the east of the Basin site, workers on the lease site shall remain at least 100 yards away from the ledges. If people are working on the site and seals approach in the water, work may continue, but a watch must be kept on the seals; if seals haul out on the ledges, workers must move at least 100 yards away from the ledges. Boats may enter the site when seals are present on the eastern ledges, provided they remain at least 100 yards from the eastern ledges and minimize motor noise and water disturbance.
- 5. The aquaculture activities proposed for these sites will not unreasonably interfere with the public use or enjoyment within 1,000 feet of a beach, park, docking facility or certain conserved land owned by the Federal Government, the State Government, or a municipal governmental agency.

- 6. The applicant has demonstrated that there is an available source of American oysters (*Crassostrea virginica*) to be cultured for the lease sites.
- 7. The aquaculture activities proposed for these sites will not result in an unreasonable impact from light at the boundaries of the lease site, provided that lights used at the lease sites are limited to hand-held or boat-mounted spotlights no greater than 1500 watts, directed only at the work area to be illuminated and in the minimum amount and for the minimum time necessary for safe operations, and that no lights shall be left on at the site when no one is working there, other than any lighting required for navigational or vessel safety purposes. The provisions of DMR Regulation 2.37(1)(A)(8) shall apply to the operation of this lease and shall be incorporated into the provisions of the lease itself.
- 8. The aquaculture activities proposed for these sites will not result in an unreasonable impact from noise at the boundaries of the lease sites, provided that: electric motors are used on all equipment at the Old Harbor Pond site; any pressure washer used at the Basin site is encased for maximum noise control and its operation limited to a maximum of one hour every third day at each tract during standard maintenance and no longer than necessary during harvests, all use to be in daylight hours only; when seals are hauled out on the eastern ledges of the Basin between May 1 and August 1, no motorized equipment or pressure washers may be used on the Basin site, and boats with motors may operate on the lease site but must remain a minimum of 100 yards distant from the eastern ledges and minimize motor noise and water disturbance. These requirements will be incorporated as conditions in the lease. The provisions of DMR Regulation 2.37(1)(A)(9) shall apply to the operation of this lease and shall be incorporated into the provisions of the lease itself.
- 9. The aquaculture activities proposed for these sites will comply with the visual impact criteria contained in DMR Regulation 2.37(1)(A)(10). DMR Regulation 2.37(1)(A)(10) shall apply to the operation of this lease and shall be incorporated into the provisions of the lease itself.

Accordingly, the evidence in the record supports the conclusion that the proposed aquaculture activities meet the requirements for the granting of an aquaculture lease set forth in 12 M.R.S.A. §6072.

5. <u>DECISION</u>

Based on the foregoing, the Commissioner grants the requested lease of 4.2 acres in Old Harbor Pond and 2.55 acres in the Basin, Vinalhaven, to the applicants for 10 years from the date of this decision for the purpose of cultivating American oysters *(Crassostrea virginica)* using suspended culture techniques. The applicants shall pay the State of Maine rent in the amount of \$100.00 per acre per year. The applicants shall post a bond or establish an escrow account pursuant to DMR Rule 2.40 (2) (A) in the amount of \$5,000.00, conditioned upon their performance of the obligations contained in the aquaculture lease documents and all applicable statutes and regulations.

6. CONDITIONS TO BE IMPOSED ON LEASE

The Commissioner may establish conditions that govern the use of the lease area and impose limitations on aquaculture activities, pursuant to 12 MRSA §6072 (7-B)². Conditions are designed to encourage the greatest multiple compatible uses of the lease area, while preserving the exclusive rights of the lessee to the extent necessary to carry out the purposes of the lease. The following conditions shall be incorporated into the lease:

- Submerged Gear: Any submerged gear in the Basin shall be marked to show its location.
- 2. DMR Marking Requirements: The leaseholders shall mark the lease sites in accordance with Coast Guard regulations and the provisions of DMR Regulation 2.80. DMR Regulation 2.80 shall apply to the operation of this lease and shall be incorporated into the provisions of the lease itself. A copy of the Coast Guard marking requirements shall be provided to the Aquaculture Hearings Officer.
 - 3. Fishing: Fishing and boating are allowed in the open areas of the lease sites.
- <u>4. Biosecurity</u>: All gear and oysters shall be thoroughly cleaned to remove fouling organisms and/or potentially invasive organisms before being moved from Old Harbor Pond to the Basin or from the Basin to Old Harbor Pond.
- <u>5. Seals</u>: These conditions are in effect for the Basin lease site from May 1 to August 1. If seals are hauled out on the ledges to the east of the Basin site, workers on the lease site shall remain at least 100 yards away from the ledges. If people are working on the site and seals approach in the water, work may continue, but a watch must be kept on the seals; if seals haul out on the ledges, workers must move at least 100 yards away from the ledges. Boats may enter the site when seals are present on the eastern ledges, provided they remain at least 100 yards from the eastern ledges and minimize motor noise and water disturbance.

area, but must also address the ability of the lease site and surrounding area to support ecologically significant flora and fauna and preserve the exclusive rights of the lessee to the extent necessary to carry out the lease purpose."

purpose.

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² 12 MRSA §6072 (7-B) provides that:

[&]quot;The commissioner may establish conditions that govern the use of the leased area and limitations on the aquaculture activities. These conditions must encourage the greatest multiple compatible uses of the leased

<u>6. Light</u>: Lights that may be used at the lease sites are limited to hand-held or boatmounted spotlights no greater than 1500 watts, directed only at the work area to be illuminated and in the minimum amount and for the minimum time necessary for safe operations. No lights shall be left on at the sites when no one is working there, other than any lighting required for navigational or vessel safety purposes. DMR Regulation 3.37 (1)(A)(8) will apply to the operation of this lease consistent with the limitations listed above and shall be incorporated into the lease provisions.

7. Noise: Electric motors must be used on all equipment at the Old Harbor Pond site. Any pressure washer used at the Basin site must be encased for maximum noise control and its operation limited to a maximum of one hour every third day at each tract during standard maintenance and no longer than necessary during harvests, all use to be in daylight hours only. When seals are hauled out on the eastern ledges of the Basin between May 1 and August 1, no motorized equipment or pressure washers may be used on the Basin site, and boats with motors may operate on the lease site but must remain a minimum of 100 yards distant from the eastern ledges and minimize motor noise and water disturbance. The provisions of DMR Regulation 2.37(1)(A)(9) shall apply to the operation of this lease subject to the aforesaid limitations and requirements and shall be incorporated into the lease provisions.

8. Visual Impact: DMR Regulation 2.37(1)(A)(10) shall apply to the operation of this lease and shall be incorporated into the provisions of the lease itself.

7. REVOCATION OF LEASE

The Commissioner may commence revocation procedures if he determines that substantial aquaculture has not been conducted within the preceding year or that the lease activities are substantially injurious to marine organisms. If any of the conditions or requirements imposed in this decision, in the lease, or in the law is not being observed, the Commissioner may revoke the aquaculture lease.

Dated:	
	George D. Lapointe (Commissioner)
	Denartment of Marine Resources

8. LIST OF EXHIBITS

- 1. DMR case file
- 2. Application
- 3. DMR Site Report

- 4. Attachment 6B from the application (a copy), showing a navigation route to the south end of the Basin, testified to by Bruce Young and Melissa Berry
 - 5. Letter from Burke Lynch
- 6. Letter from David G. Strawson, Managing Trustee, Strawson Family Trust, presented by Elise Morehouse
 - 7. Testimony of David Weiss, including 3 pages of Internet information on salps
- 8. Copies of color photographs on 3 pages, by David Weiss, taken in 2006, showing seals on rocks west of the proposed lease site
 - 9. Testimony of Vinalhaven Land Trust, presented by Lucy McCarthy
- 10. Map of conserved lands around The Basin, prepared by Vinalhaven Land Trust and presented by Lucy McCarthy